

Technical Information Sheet

1. Name of technology	High-speed methane fermentation system (EGR)
2. Type of technology	Waste water containing high concentration of organic substances discharged from the manufacturing processes of the food manufacturing industry or other industries is anaerobically fermented to produce methane and the recovered methane gas is used as energy. This enables the reduction of fossil fuel consumption and CO ₂ emissions.
3. Description of technology Objective, application, characteristics, delivery record, and price of technology	<p>[Objective and application of the technology] Energy is recovered from waste liquids containing high concentrations of organic substances. This technology is used for waste water from food manufacturing industries and paper and pulp manufacturing.</p> <p>[Characteristics of the technology] Waste water is treated by two tanks, the acid fermentation tank and the methane fermentation tank. The high-concentration waste water is put in the acid fermentation tank and stirred in anaerobic conditions at a water temperature of 35 to 37°C in order to hydrolyze macromolecular protein, carbonates, and other substances in the waste water and acid-ferment the waste water into an organic acid, such as a low-molecular acetic acid. The acid-fermented waste water is sent to the methane fermentation tank where it is anaerobically decomposed into methane and CO₂ by granules (granular aggregate of methane bacteria). The methane gas is desulfurized and burned by the boiler to recover energy.</p> <div style="display: flex; justify-content: space-around;"> <div data-bbox="427 936 767 1126"> </div> <div data-bbox="810 913 1380 1104"> </div> </div> <p style="text-align: center;">Fig. 1 EGR Construction Fig. 2 Methane Fermentation Equipment Schematic Flow</p> <p>[Delivery record] 18 facilities in Japan</p> <p>[Price and other inquiries] Please contact the office and person in charge below.</p>
4. Classification of technology	
(1) Applicable fields	Municipal solid waste treatment, Industrial waste treatment
(2) Target waste	Food waste/raw garbage (high-concentration waste liquid)
(3) Services provided	Plant construction, Sales of machinery and equipment, Technical cooperation/licensing, Consulting
5. Countries to which this technology can be provided	All countries including China and Southeast Asian countries (no restrictions as long as there are no security issues)
6. Keywords	Waste water treatment, acid fermentation, methane fermentation, granule, energy recovery
7. Contact information	Sakai, Manager, Industrial Water Treatment Sales Department, Swing Corporation TEL: 050-3482-8570 E-mail: sakai.akiyoshi@swing-w.com